

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
15 September 2005 (15.09.2005)

PCT

(10) International Publication Number  
**WO 2005/084542 A1**

(51) International Patent Classification<sup>7</sup>: **A61B 5/103**,  
1/00, A61M 25/00, G01L 1/24, 1/10

(21) International Application Number:  
PCT/SG2005/000063

(22) International Filing Date: 1 March 2005 (01.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
200401086-4 4 March 2004 (04.03.2004) SG

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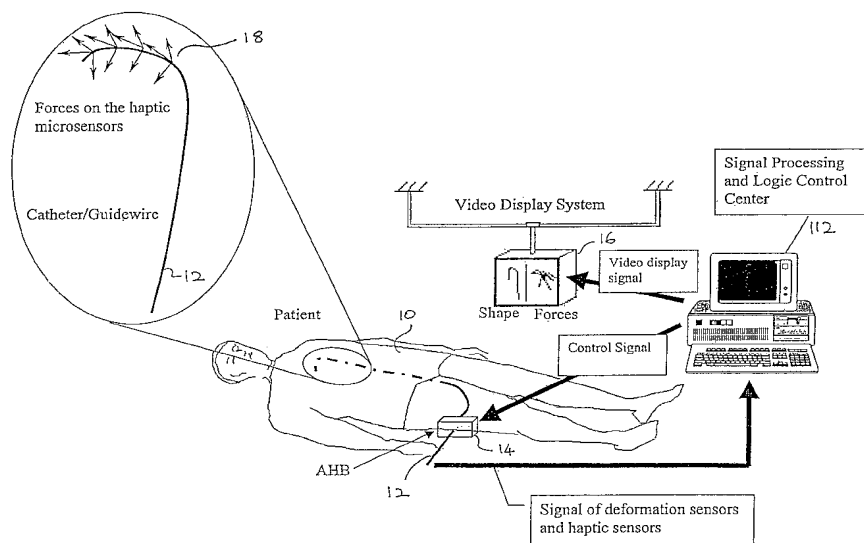
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(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,  
ZM, ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: APPARATUS FOR MEDICAL AND/OR SIMULATION PROCEDURES



(57) Abstract: In a preferred embodiment, medical apparatus comprising a catheter (12) which operable to be inserted into a human subject (10) is disclosed herein. Haptic sensors (22, 24) and deformation sensors (26, 27) are connected to the catheter (12) and these are disposed at a plurality of locations along the length of the catheter (12). The haptic sensors measures 3D forces (18) acting on the catheter (12) at the disposed locations and these forces are provided to a haptic feedback device (14) which provides haptic feedback to, an interventional radiologist. The deformation sensors (26, 27) on the other hand, measures the deformation of the catheter (12) at the disposed locations and this information determines the shape of the catheter (12) which is represented on a display (16) for viewing by the radiologist.

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GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

— of inventorship (Rule 4.17(iv)) for US only

**Published:**

— with international search report

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